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13. A device for evaporating samples in sample vessels, each of said vessels being provided with at least one filling opening, said device comprising

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holding means for simultaneously holding several sample vessels, connection means connectable to the filling openings, by way of which the sample vessels individually or in groups are hermetically connectable to means for producing a vacuum and thereby may be evacuated.

14. A device according to claim 13, further comprising drive means for producing a vortex movement, said connection means being flexible so that the holding means and the sample vessels are movable independently of the means for producing a vacuum.

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15. A device according to claim 13, wherein the connection means comprise at least one connection plate which is sealingly pressable onto the filling openings of the sample vessels, or is suctioned by the vacuum, and which has connection paths for connecting the filling openings to the connection of the means for producing a vacuum.

16. A device according to claim 15, wherein the connection plate comprises longitudinal channels which extend from its lower side, directed towards the sample vessels, of the connection plate and which are placeable aligned onto the filling openings. 7.4.3

17. A device according to claim 16, wherein the longitudinal channels extend through the connection plate up to the upper side distant to the lower side, wherein the upper side is provided with a least one recess which communicates with the longitudinal channels. 7.4.3

18. A device according to claim 17, wherein between the exit opening of the longitudinal channels and the recess there are formed battles which prevent the flowing back of condensate into the sample vessels, and the level of the exit opening lies above the level of the base of the recess.

19. A device according to claim 17, wherein the connection plate comprises a connection opening which communicates with the recess and which is connectable to the means for producing a vacuum.

20. A device according to claim 17, wherein the connection means comprise a sealing plate which for sealing the recess is placeable onto the connection plate.

21. A device according to claim 20, wherein the sealing plate is made of transparent heat-resistant glass.

22. A device according to claim 20, wherein the sealing plate and/or the connection plate comprise aligning means for centering and firmly holding the connection plate with respect to the holding means.

23. A device according to claim 13, wherein the holding means and/or the connection means are adaptable to a differing number and size of sample vessels.

24. A method for evaporating samples simultaneously held in several sample vessels each having a filling opening, said method comprising steps of
hermetically connecting the filling opening of each of the vessels to a means
for producing a vacuum,
heating the samples in said vessels, and
evacuating said vessels by means of said vacuum.